

### REMARKS

In the Office Action dated May 24, 2004, claims 1, 2, 8, 9, 12, 13, and 18-23 were rejected under 35 U.S.C. § 103 over U.S. Patent No. 6,070,070 (Ladue) in view of U.S. Patent No. 6,023,460 (Jackson); claims 10 and 11 were rejected under § 103 over Ladue in view of Jackson and U.S. Patent No. 6,137,787 (Chawla); and claims 3-7, 14, 15, and 17 were rejected under § 103 over Ladue, Jackson, and U.S. Publication No. 2002/0097703 (Nieczyporowicz).

Applicant acknowledges the indication that claim 16 contains allowable subject matter. Claim 16 has been amended from dependent form to independent form, with the scope of the claim remaining *unchanged*, to place the claim in condition for allowance.

Claims 1, 12, and 20 have been canceled, without prejudice, to render the rejections of those claims moot.

Claim 2 has been amended from dependent form to independent form. Claim 2 recites allocating a first group of carrier frequencies to a first cell segment, and allocating a second, distinct group of carrier frequencies to a second cell segment, where the one carrier frequency for communicating beacon control signaling is part of the plurality of carrier frequencies allocated to the first cell segment.

It is respectfully submitted that there was no motivation of suggestion to combine Ladue and Jackson to achieve the subject matter of claim 2. Ladue teaches that each sector is assigned its own set of radio frequencies. Ladue, 25:30-31. In contrast, Jackson states that any of the assigned frequencies may be used in any slot at *any base station*. Jackson, 9:55-56. "Accordingly, there are no assignments of frequencies or sets of frequencies to particular base stations." Jackson, 9:56-58. The feature of not assigning frequencies to particular base stations "provides considerable ease in installing the system, a replacement base station or a new base station." Jackson, 9:58-60. Thus, the technique that is employed by Jackson (where no particular assignment of radio frequencies is performed for different base stations) is at odds with the frequency group assignment technique employed by Ladue in which each cell sector is assigned a different group of frequencies. A person of ordinary skill in the art looking to the teachings of

Ladue and Jackson would not have been motivated to combine their teachings to achieve the claimed invention.

Moreover, the teaching in Jackson that no assignments of frequencies are provided to base stations is contrary to what is recited in claim 2. Claim 2 recites that a first group of carrier frequencies is allocated to a first cell segment, and a second *distinct* group of carrier frequencies is allocated to a second cell segment. In other words, Jackson teaches away from the invention. This is further objective evidence that a person of ordinary skill in the art would not have been motivated to combine the teachings of Ladue and Jackson to achieve the claimed invention. Therefore, a *prima facie* case of obviousness cannot be established with respect to claim 2.

Claims dependent from claim 2 are allowable for at least the same reasons.

Claim 3 has also been amended from dependent form to independent form, with the scope of claim 3 being *unchanged*. Claim 3 was rejected as being obvious over the asserted combination of Ladue, Jackson, and Niecyporowicz. As stated above, no motivation or suggestion existed to combine Ladue and Jackson; therefore, no motivation or suggestion existed to combine Ladue, Jackson and Niecyporowicz.

Moreover, even if the references can be properly combined, the hypothetical combination Ladue, Jackson and Niecyporowicz does not teach or suggest the invention of claim 3. Note that claim 3 recites defining a hopping sequence among the allocated plurality of carrier *frequencies*, and excluding the one carrier *frequency* for communicating beacon control signaling from the hopping sequence. Niecyporowicz teaches pseudo-noise (PN) code hopping. Niecyporowicz, ¶¶ [0009]-[0010]. According to CDMA, the entire band of frequency carriers is reused in every cell of the CDMA system, with the band of carriers differentiated by the PN codes assigned to the cells. A PN code hopping sequence is quite different from a hopping sequence of a plurality of carrier *frequencies*. For at least this reason, the hypothetical combination of Ladue, Jackson, and Niecyporowicz clearly does not disclose or suggest *all* elements of claim 3.

Moreover, the Office Action did not address how the cited references teach or suggest an element recited in claim 3: excluding the one carrier frequency for

communicating beacon control signaling from the *hopping sequence* of carrier frequencies. There is no indication in Nieczyporowicz, or in Ladue or Jackson, of excluding a carrier frequency for communicating beacon control signaling from a hopping sequence. In fact, Jackson teaches the opposite, stating that “[w]hen all of the non-control channels are being used for on-going telephone calls, the base station is free to assign its control channel as a voice channel.” Jackson 10:41-46. What this teaches to a person of ordinary skill in the art is *not* that the carrier frequency for communicating beacon control signaling is excluded from a hopping sequence, but rather that any carrier frequency that is assigned for beacon control signaling can be used for other purposes, such as for a voice channel. Therefore, a person of ordinary skill in the art looking to the teachings of Jackson would have been led away from the invention, rather than towards it. This is another reason that there existed no motivation or suggestion to combine Ladue, Jackson, and Nieczyporowicz.

Claims dependent from claim 3, including newly added claims 24-26, are allowable for at least the same reasons. Note that dependent claim 25 is similar to claim 16 (which has been indicated as containing allowable subject matter by the Office Action).

The rejection of dependent claim 6, which depends from claim 3, is defective. Although the Office Action rejected claim 6 as being obvious over Ladue, Jackson, and Nieczyporowicz, the explanation with respect to claim 6 provided by the Office Action indicates that “the claim has the same limitation as that in 10 [sic] therefore is interpreted and rejected with the same reasons set forth in claim 10.” Applicant notes that claim 10 was rejected as being obvious over Ladue, Jackson, and *Chawla*, not Ladue, Jackson, and Nieczyporowicz.

Claim 10 has been amended from dependent form to independent form, with the scope of claim 10 remaining *unchanged*. Claim 10 was rejected as being obvious over the asserted combination of Ladue, Jackson, and Chawla. In view of the fact that Ladue and Jackson cannot be properly combined, the asserted combination of Ladue, Jackson, and Chawla is also defective.

Moreover, the Office Action conceded that the combination of Ladue and Jackson fails to teach the provision of fractional reuse pattern. 5/24/2004 Office Action at 6. However, reliance was made on Chawla, citing specifically to column 4, lines 22-42. Applicant notes that the cited Chawla passage refers to time domain reuse patterns, not frequency domain reuse patterns. Chawla specifically teaches that “each cell has the ability to fully use the allocated spectrum, rather than splitting this spectrum into separate frequency channels, and assigning only a few of these to each cell.” Chawla, 6:46-50. Thus, rather than using a frequency reuse pattern, Chawla proposes time domain reuse. In view of this, it is clear that Chawla does not provide teaching of the element conceded to be missing from the combination of Ladue and Jackson. Therefore, the hypothetical combination of Ladue, Jackson, and Chawla fails to teach or suggest the claimed invention.

Claim 11, which depends from claim 10, is allowable for at least the same reasons.

Claim 17 has been amended from dependent form to independent form, with the scope of claim 17 *broadened*. Although claim 17 was rejected as being obvious over Ladue, Jackson, and Nieczyporowicz, the Office Action stated that “the claim has the same limitation as that in claim 6 therefore [sic] is interpreted and rejected for the same reason set forth in claim 6.” 5/24/2004 Office Action at 9. Note that the rejection of claim 6 referred to the rejection of claim 10, which was rejected over Ladue, Jackson, and *Chawla*, not Ladue, Jackson, and Nieczyporowicz. Therefore, the rejection of claim 17, is also *defective*.

Moreover, as discussed above, with respect to claim 10, the asserted combination of Ladue, Jackson and Chawla does not teach or suggest the use of a fractional reuse pattern as recited in the claim.

Claim 21 has been amended from dependent form to independent form, with the scope of the claim remaining *unchanged*. Claim 21 is allowable for reasons similar to those of claim 3.


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Claims dependent from claim 21, including newly added claims 27 and 28, are allowable for at least the same reasons. Moreover, it is respectfully noted that claim 27 recites subject matter similar to claim 16, which was indicated as containing allowable subject matter.

In view of the foregoing, all claims are in condition for allowance, which action is respectfully requested. The Commissioner is authorized to charge any additional fees, including extension of time fees, and/or credit any overpayment to Deposit Account No. 20-1504 (NRT.0105US).

Respectfully submitted,

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